

IN THE CLAIMS

1. (Currently amended) An inkjet cleaning apparatus comprising a circuit holder, a laser for generating a laser beam, ~~and an optics subsystem arranged to focus and scan the laser beam onto a circuit surface at the circuit holder,~~ and a diagnostic subsystem comprising a sensor arranged to sense whether the circuit surface has been cleaned.
2. (Original) An apparatus as claimed in claim 1 in which the optics subsystem includes a beam splitter for splitting off a portion of the beam to regulate the laser beam power.
3. (Original) An apparatus as claimed in claim 1 in which the optics subsystem includes a scanner arranged to scan the laser beam across a circuit surface.
4. (Original) An apparatus as claimed in claim 1 in which the optics subsystem includes a lens system for adjusting laser beam size, shape and incident fluence.
5. Cancelled.
6. (Currently amended) An apparatus as claimed in claim 5_1 in which the sensor comprises one or more of an acoustic sensor, a plasma signal sensor, or a surface pattern inspection monitor.

7. (Currently amended) An apparatus as claimed in claim 5_1 further including an apparatus controller arranged to receive a signal from the sensor and control the cleaning operation accordingly.
8. (Original) An apparatus as claimed in claim 1 in which the laser has a pulse duration of nanoseconds scale and a wavelength selected from the visible to the infrared range.
9. (Original) An apparatus as claimed in claim 1 in which the circuit holder is arranged to replace a cleaned circuit by a contaminated circuit.
10. (Original) An apparatus as claimed in claim 1 further including a contaminant removal mechanism.
11. (Original) An apparatus as claimed in claim 10 in which the contaminant removal mechanism comprises one of a vacuum source or a gas stream source.
12. (Original) An apparatus as claimed in claim 10 further comprising a transparent protective cover between the circuit holder and the optics system to trap escaped contaminant.

13. (Currently amended) An apparatus as claimed in claim 1 in which the inkjet circuit comprises ~~a flexible circuit for an inkjet printer cartridge~~ one or more inkjet nozzles formed in a flexible circuit substrate.

14. (Currently amended) A method of cleaning an inkjet circuit comprising the steps of retaining a circuit to be cleaned in a circuit holder, generating a laser beam from a laser, ~~and focusing and scanning the laser beam on the circuit surface via an optics subsystem, and detecting when a portion of the circuit surface is cleaned and controlling~~ a galvanometer to scan the beam across a non-cleaned portion of the surface.

15. Cancelled.

16. (Original) A method as claimed in claim 14 further comprising the step of detecting when a circuit is fully cleaned, and controlling the circuit holder to replace the circuit with a non-cleaned circuit.

17. (Currently amended) A method as claimed in claim 14 for cleaning ~~a flexible circuit of an inkjet printer cartridge~~ one or more inkjet nozzles formed in a flexible circuit substrate.

18. (New) An inkjet cleaning apparatus comprising a circuit holder, a laser for generating a laser beam, and an optics subsystem arranged to focus and scan the laser

beam onto a circuit surface at the circuit holder, and wherein the circuit holder is arranged to replace a cleaned circuit by a contaminated circuit.

19. (New) An apparatus as claimed in claim 18 in which the optics subsystem includes a beam splitter for splitting off a portion of the beam to regulate the laser beam power.

20. (New) An apparatus as claimed in claim 18 in which the optics subsystem includes a scanner arranged to scan the laser beam across a circuit surface.

21. (New) An apparatus as claimed in claim 18 in which the optics subsystem includes a lens system for adjusting laser beam size, shape and incident fluence.

22. (New) An apparatus as claimed in claim 18 further including a diagnostic subsystem comprising a sensor arranged to sense whether the circuit surface has been cleaned.

23. (New) An apparatus as claimed in claim 22 in which the sensor comprises one or more of an acoustic sensor, a plasma signal sensor, or a surface pattern inspection monitor.

24. (New) An apparatus as claimed in claim 22 further including an apparatus controller arranged to receive a signal from the sensor and control the cleaning operation accordingly.

25. (New) An apparatus as claimed in claim 18 in which the laser has a pulse duration of nanoseconds scale and a wavelength selected from the visible to the infrared range.
26. (New) An apparatus as claimed in claim 18 further including a contaminant removal mechanism.
27. (New) An apparatus as claimed in claim 26 in which the contaminant removal mechanism comprises one of a vacuum source or a gas stream source.
28. (New) An apparatus as claimed in claim 26 further comprising a transparent protective cover between the circuit holder and the optics system to trap escaped contaminant.
29. (New) An apparatus as claimed in claim 18 in which the inkjet circuit comprises one or more inkjet nozzles formed in a flexible circuit substrate.
30. (New) A method of cleaning an inkjet circuit comprising the steps of retaining a circuit to be cleaned in a circuit holder, generating a laser beam from a laser, focusing and scanning the laser beam on the circuit surface via an optics subsystem, detecting when a circuit is fully cleaned, and controlling the circuit holder to replace the circuit with a non-cleaned circuit.

31. (New) A method as claimed in claim 30 further comprising the steps of detecting when a portion of the circuit surface is cleaned and controlling a galvanometer to scan the beam across a non-cleaned portion of the surface.

32. (New) A method as claimed in claim 30 for cleaning one or more inkjet nozzles formed in a flexible circuit substrate.